

Claims:

1. A process for the separation of volatile material from particulate polymer which has been substantially freed from unreacted monomer in an earlier separation step, comprising

(a) feeding the particulate polymer to a purge vessel and causing it to move
5 through the vessel in substantially plug-flow mode,

(b) heating the particulate polymer in the purge vessel to a temperature greater than 30°C but insufficiently high to cause the particles to become agglomerated, and/or maintaining the polymer at a temperature in this range in the purge vessel,

(c) feeding gas to the purge vessel to remove volatile material therefrom,

10 removing the particulate polymer from the purge vessel,

wherein substantially all of the heating of the particles which occurs in the purge vessel is accomplished by preheating the gas fed into the purge vessel.

2. Process according to claim 1 wherein the gas is fed to the purge vessel counter-current to the movement of the particulate polymer.

15 3. Process according to claim 1 or 2, wherein at least a portion of the gas fed to the purge vessel enters the vessel at one or more points located closer to the top of the vessel than to the bottom.

4. Process according to claim 3 wherein at least 80% of the total gas flow entering the vessel does so at said one or more points located closer to the top of the vessel.

20 5. Process according to claim 4 wherein said one or more points located close to the top of the vessel are located at a level such that less than 20% of the volume of particles in the vessel lie above that level when the vessel contains the maximum quantity of particulate polymer.

6. Process according to any preceding claim wherein no more than 20% of the total mass of gas entering the vessel does so at close to the bottom of the vessel.
7. Process according to any preceding claim wherein no more than 10% of the total mass of gas entering the vessel does so at close to the bottom of the vessel.
- 5 8. Process according to any preceding claim wherein part of the gas entering the purge vessel is discharged directly into the middle of the vessel at the same level as the point of entry of the gas entering at one or more points located closer to the top of the vessel.
9. Process according to claim 8, wherein the mass flow of gas discharged directly
10 into the middle of the vessel is 20-40% of that discharged into the side of the vessel at the same level.
10. Process according to any preceding claim, wherein the particulate polymer is in the form of pellets.
11. Process according to any preceding claim wherein the discharge from the purge
15 vessel comprises a frustoconical portion having an opening at its bottom, on which portion is seated a valve in the form of an upturned cone, thereby defining an annular passageway when the valve is open.
12. Process according to claim 11 wherein discharge through said valve is intermittent due to opening and closing of the valve.
- 20 13. Process according to any preceding claim, wherein at least a portion of the gas fed to the purge vessel is at least partially preheated using heat from the particulate polymer.
14. Process according to claim 13, wherein said portion of the gas fed to the purge vessel is preheated by passing it through the purge vessel prior to contacting it with the
25 particulate polymer.